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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,985	12/11/2003	Donald E. Brodnick	039199-9544-00	8570

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EXAMINER

WINAKUR, ERIC FRANK

ART UNIT	PAPER NUMBER
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3768

MAIL DATE	DELIVERY MODE
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06/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/732,985

Applicant(s)

BRODNICK ET AL.

Examiner

Eric F. Winakur

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-26 and 28-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-26 and 28-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 February 2007 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 1, 2, 4 - 26, 28 - 46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claims 1, 42 and 46, it is unclear what the phrase "wherein the use of the neural-muscular device effectuates" is meant to set forth. With regard to claim 10, it is unclear if Applicant intends to recite attaching an additional neural-muscular device to the patient, in addition to the one used in the "attaching" of the base claim or if Applicant intends to recite a further limitation of the previously recited element. With regard to claims 11 and 12, it is unclear how the claimed steps relate to the "effectuating" of the base claim. With regard to claims 14 and 15, it is unclear if Applicant intends to set forth a new transducer or intends to set forth a limitation of the previously defined transducer. With regard to claims 16 and 28,

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it is unclear what the phrase "wherein the NMT effectuates" is meant to set forth. With regard to claims 24 and 39, it is unclear if Applicant intends to claim an additional NMT device or if Applicant intends to set forth further limitations of the NMT of the base claim. With regard to claims 25, 26, 40, and 41, it is unclear how the claimed limitations relate to the "effectuating" of the base claim.

Claim Rejections - 35 USC § 103

4. Claims 1, 2, 4 - 18, 20, 22 - 33, 35, and 37 - 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills '205 (USPGPub 2002/0188205 A1 - previously cited) in view of Olive (USPN 5,957,860 - previously cited) and Niwa (USPN 5,025,791 - previously cited). As previously detailed, Mills '205 discloses the same invention including a method and apparatus to monitor multiple physiological characteristics. Mills '205 discloses a probe comprising of light emitters (paragraph 75) and detectors (paragraph 75) to measure pulse oximetry (paragraph 76) and electrodes to measure electrocardiogram (paragraph 77). The light emitters comprise light emitting diodes (paragraph 95) that emit light in the visible and infrared range (paragraph 82). The detector comprises a broad-band photo detector that measures the transmitted light (paragraph 96). Mills '205 also discloses the apparatus can comprise additional probes to allow diagnostic-quality ECG measurements (paragraph 129). The probes are connected to a controller comprising a computing device to generate blood oxygen saturation, ECG, and other desired measurements (paragraph 123). Mills '205 teaches the use of the probe comprising of attaching the probe to a patient, acquiring a pulse oximetry signal, and acquiring an ECG signal (paragraph 128). Mills '205 teaches

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generating a diagnostic-quality ECG by attaching multiple probes (paragraph 129) which inherently involves acquiring a reference electrocardiogram signal and non-reference electrocardiogram signals. Regarding Claims 6, 29 and 43, Mills '205 discloses measuring an impedance respiration signal (paragraph 153). Regarding Claims 7, 30 and 44, Mills '205 discloses a controller to generate a cardio-respirogram signal (paragraph 123). Regarding Claims 8, 31, and 45, Mills '205 discloses generating at least one channel of electrocardiogram output (paragraph 130 and figure 25). Regarding Claims 20 and 35, Mills '205 discloses isolating the electrode from the detector by having separate reference wires for the electrode and detector (figure 12). Regarding Claims 22, 37, and 46, Mills '205 discloses placing the device on the fingers of neonates and young children (paragraph 38). Regarding Claims 23 and 38, Mills '205 discloses a probe adapted to enclose a finger in order to position the emitters and detectors on opposite sides of the finger (figure 5). Thus, Mills '205 discloses the invention substantially as claimed with the exception of using a neural-muscular transmission device coupled to the substrate with the emitters, detectors, and electrodes. However, Mills '205 discloses that as a general purpose monitor, the device invites the addition of specialized add-ons (paragraph 41). Rodiera Olive teaches the use of a system that determines the neural-muscular transmission signal (column 4, lines 19-26) along with oxygen saturation and ECG (column 7, lines 38-52) in order to evaluate the status of the neuromuscular block. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the system of Mills '205 with a neural-muscular transmission device as taught by Rodiera

Olive in order to evaluate the status of the neuromuscular block. The combination discloses the invention substantially as claimed with the exception of filtering and ignoring the pulse oximetry signal acquired when the neural-muscular transmission signal was being acquired. However, Niwa discloses a processor that discards motion signals (column 6, line 67 -column 7, line 3) detected by an acceleration sensor in an oximeter device. One would recognize that the neural-muscular transmission device causes motion in the tissue when operating. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the system of Mills '205 in view of Rodiera Olive with a processor that discards motion signals as taught by Niwa in order to ignore and filter the pulse oximetry signal of motion signals when the neural-muscular transmission device is operating.

5. Claims 19, 21, 34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mills, Rodiera Olive, and Niwa as applied to claims 16, 28, and 35 above, and further in view of Merchant et al. (previously cited). The combination teaches all of the features of the claimed invention except for a common reference wire and a multi-wire connector. However, Merchant et al. discloses a multi-wire adapter that can be connected between a probe that has its electrical elements in one configuration and a monitor designed for use with a probe having a different electrical configuration (column 2, line 65 - column 3, line 3 and figure 3). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the system of Mills '205 with a multi-wire adapter as

taught by Merchant et al. in order to connect the probe with a monitor designed for use with a probe having a different electrical configuration.

Response to Arguments

6. Applicant's arguments with respect to claims 1, 2, 4 - 26, and 28 - 46 have been considered but are moot in view of the new ground(s) of rejection. However, certain remarks will be addressed, as they are relevant to the newly presented combinations. First, Applicant reiterates the argument that unlike the claimed structure, Mills does not teach an electrode configured to receive either a reference or non-reference ECG signal. Difference in use must result in a structural difference to be patentably distinguishable. However, Applicant does not detail (or claim) a structural difference between the electrode of Mills and that of the claims. Even if Mills does not teach use of their electrode in this manner, it is capable of such use. That is, Applicant's claimed electrode and that of Mills are structurally indistinguishable, and therefore Mills meets the claimed structure.

7. Also, it is noted that Applicant has amended the independent claims to recite certain features that were not rejected under 35 U.S.C. 102(e), but were rejected under 35 U.S.C. 103. Applicant correctly points out that neither Mills I nor Mills II teaches the amended features now found in the independent claims. Indeed, this is why certain claims were rejected with the combinations of Mills and Rodiera Olive, Niwa, and Merchant in the prior Office actions. However, it is improper, as Applicant has done, to argue that one of the references of a combination fails to teach a claimed feature, and then conclude that as a result the claims are allowable, while ignoring the basis of the

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combination. It is well established that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

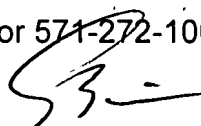
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Atlee, III et al. and Westenskow et al teach additional NMT arrangements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric F. Winakur whose telephone number is 571/272-4736. The examiner can normally be reached on M-Th, 7:30-5; alternate Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eleni Mantis-Mercader can be reached on 571/272-4740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Eric F Winakur
Primary Examiner
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